

CLAIMS

We claim:

1. An air induction assembly for a vehicle engine comprising:

an air cleaner having an air cleaner inlet in fluid communication with an air supply and an air cleaner outlet;

an intake manifold mounted to said air cleaner and having a manifold inlet in fluid communication with said air cleaner outlet; and

a valve cover mounted to said air cleaner such that said valve cover, said intake manifold, and said air cleaner together form an induction module wherein said induction module is mounted to a vehicle engine as a single unit.
2. The assembly of claim 1 wherein a portion of said air cleaner is positioned directly between said valve cover and said intake manifold.
3. The assembly of claim 1 wherein said air cleaner, said intake manifold, and said valve cover are integrally molded together as a single piece.
4. The assembly of claim 1 including at least one attachment interface between said air cleaner and said intake manifold and including at least one attachment interface between said air cleaner and said valve cover.
5. The assembly of claim 1 including a throttle body mounted to said intake manifold and having a throttle body inlet in fluid communication with said air cleaner outlet.

6. The assembly of claim 5 including a tube sealed at one end to said air cleaner at said air cleaner outlet and said at an opposite end to said throttle body inlet.
7. The assembly of claim 6 wherein said intake manifold has an upper surface facing away from said engine and wherein said throttle body inlet is incorporated into said upper surface.
8. The assembly of claim 6 wherein said throttle body inlet is incorporated into a side surface of said intake manifold.
9. The assembly of claim 1 including a panel air filter slidably received within a cavity formed within said air cleaner.
10. The assembly of claim 9 wherein said air cleaner inlet is positioned on one side of said panel air filter and said air cleaner outlet is positioned on an opposite side of said panel air filter.
11. The assembly of claim 10 including an air cleaner cover mounted to said air cleaner and selectively moveable between an open and closed position to provide access to said panel air filter.
12. The assembly of claim 1 including a radial seal air filter mounted within a cavity formed within said air cleaner, said radial seal air filter comprising a tube and filtering

material circumferentially surrounding said tube and extending along the length of said tube wherein said tube includes an enclosed first end and an open second end in fluid communication with said air cleaner outlet.

13. The assembly of claim 12 including a gap formed between said enclosed first end and said air cleaner inlet such that air flows into said gap, flows around said radial seal air filter, flows through said filtering material into said tube, and flows out through said air cleaner outlet.

14. The assembly of claim 13 including an air cleaner cover mounted to said air cleaner and selectively moveable between an open and closed position to provide access to said radial seal air filter.

15. A method of mounting an air induction assembly to a vehicle engine comprising the steps of:

- (a) assembling an intake manifold, air cleaner, and valve cover together to form an induction module; and
- (b) mounting the induction module to a vehicle engine.

16. The method of claim 15 wherein step (a) further includes the step of positioning the air cleaner directly between the valve cover and said intake manifold.

17. The method of claim 16 wherein step (a) further includes the step of attaching a throttle body to the intake manifold prior to step (b).

18. The method of claim 16 including the step of installing an air filter in a cavity formed within the air cleaner.